FIG. 1

SLIT LIGHT A

SLIT LIGHT B

3

S

1

10

2

FIG. 2

OBJECT

SLIT LIGHT B

SLIT LIGHT A

LENS

PIXEL   4

1

2
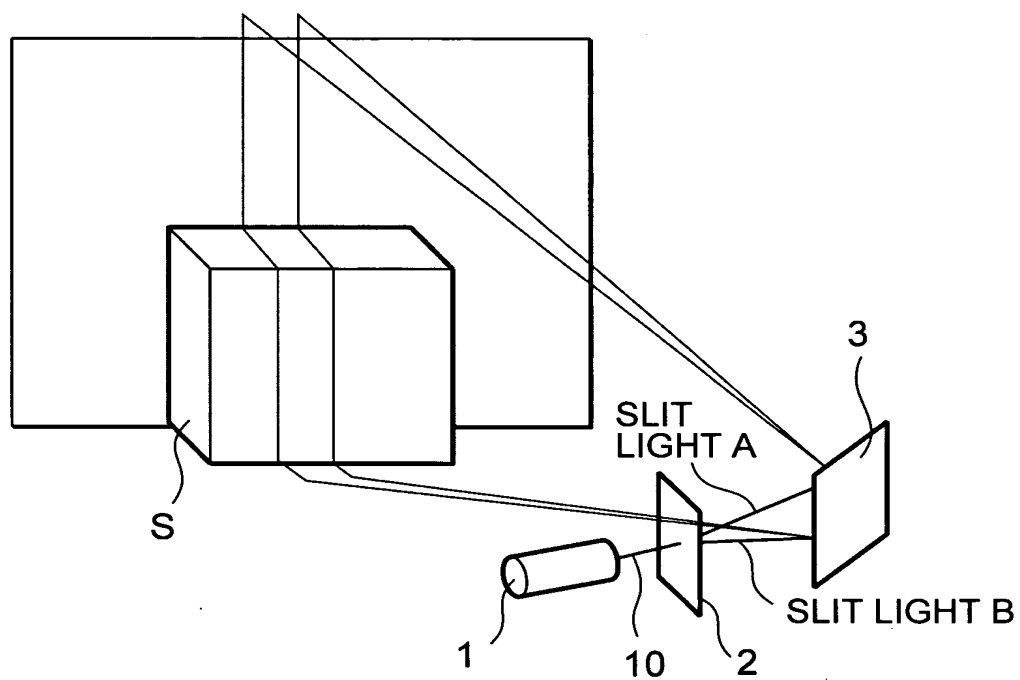
3

FIG. 3

$\Delta L=(2 \cdot \Delta D sin(\theta f/2))/cos(\theta m)$

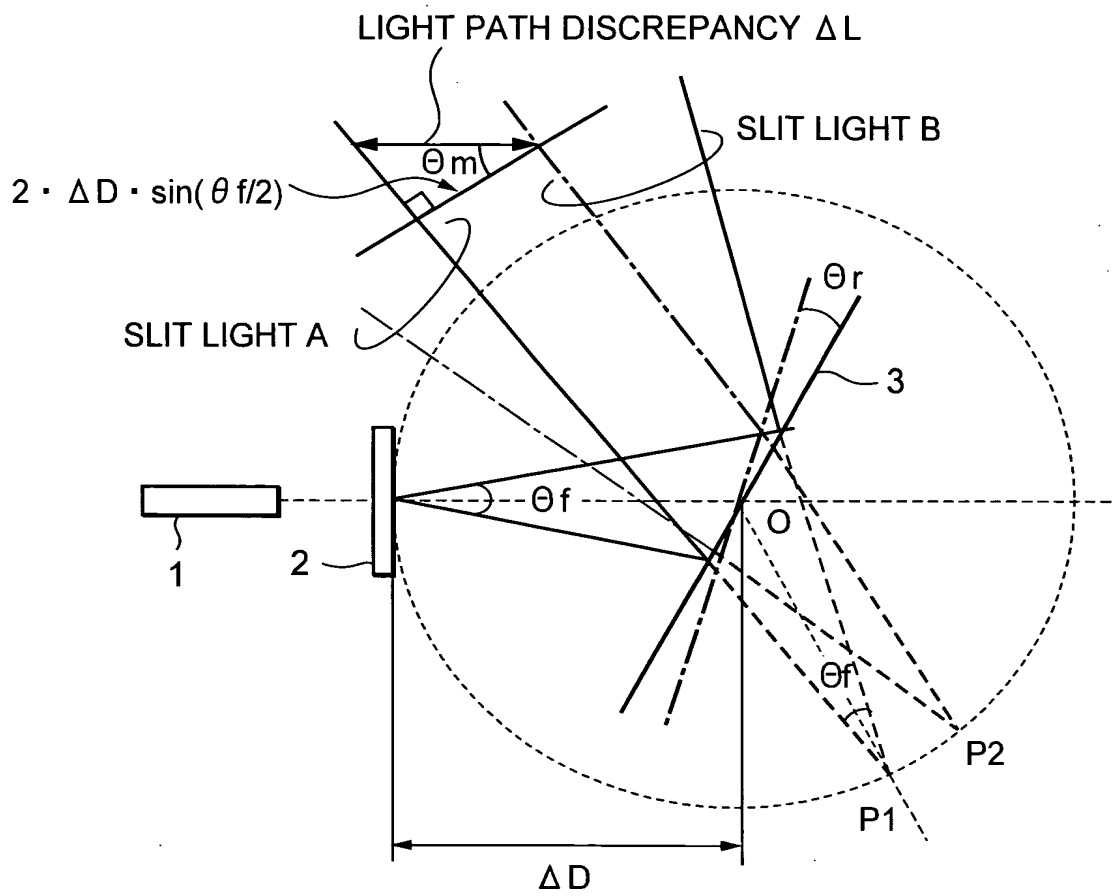LIGHT PATH DISCREPANCY ΔL

SLIT LIGHT B

$2 \cdot \Delta D \cdot sin(\theta f/2)$

θm

SLIT LIGHT A

θr

3

θf

O

1

2

θf

P2

P1

ΔD

FIG. 4

| IMAGING SIGNAL OUTPUT SECTION | → | IMAGING SIGNAL PROCESSOR | ⇒ IMAGE INFORMATION |

51

THREE-DIMENSIONAL MEASURMENT SIGNAL PROCESSOR

52

FRAME COUNTER

54

THREE-DIMENSIONAL MEASURMENT SIGNAL OUTPUT SECTION

FRAME MEMORY (FOR LASER DETECTION DATA)

53

DISTANCE INFORMATION

D0	D1	D2	D3	D4	I0	I1	I2	C0	C1	C2	C3	C4	C5	C6
1	0	0	0	1										

FRAME DATA BIT SEQUENCE (5-BIT)

DATA COUNT BIT SEQUENCE (3-BIT)

FRAME COUNT BIT SEQUENCE (7-BIT)

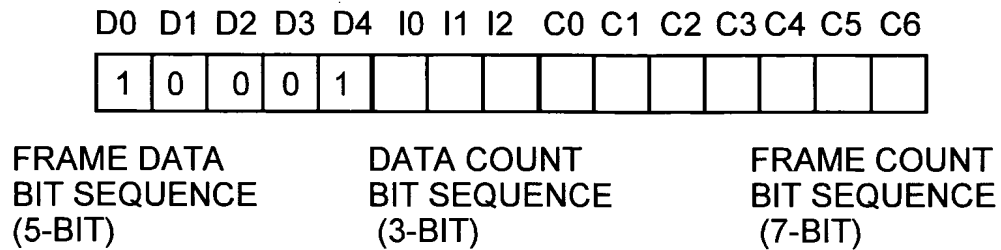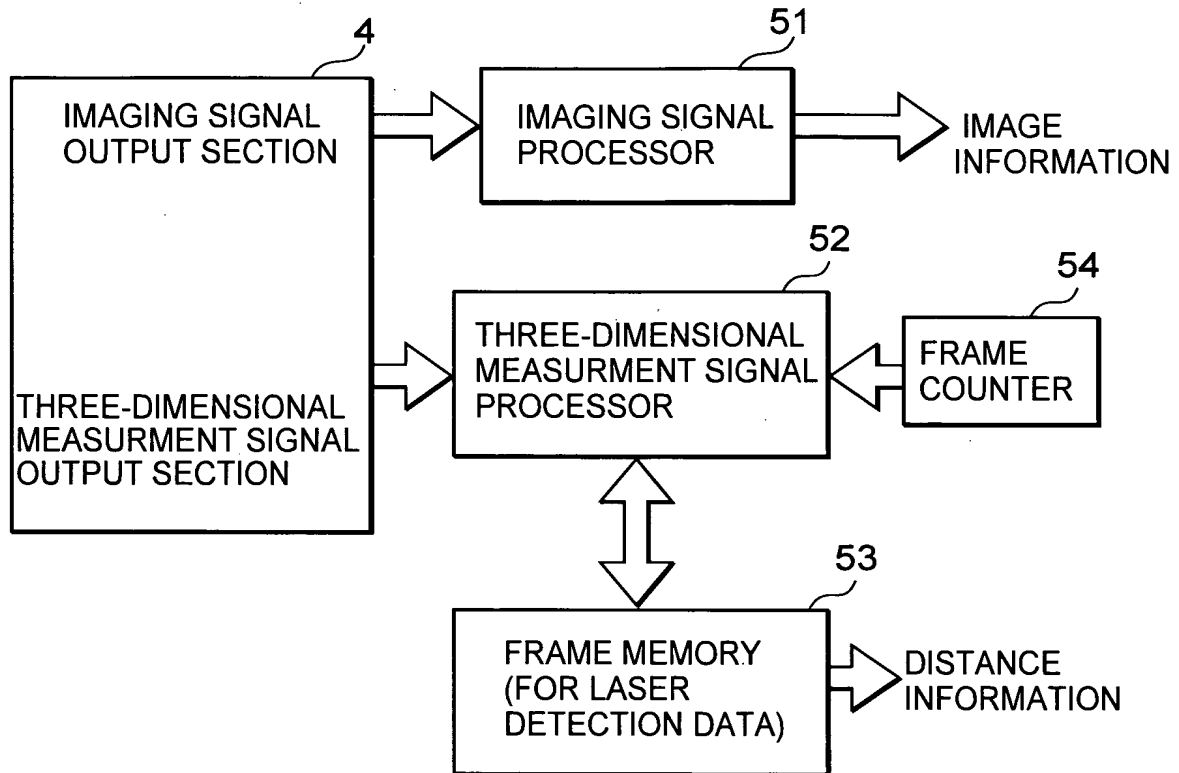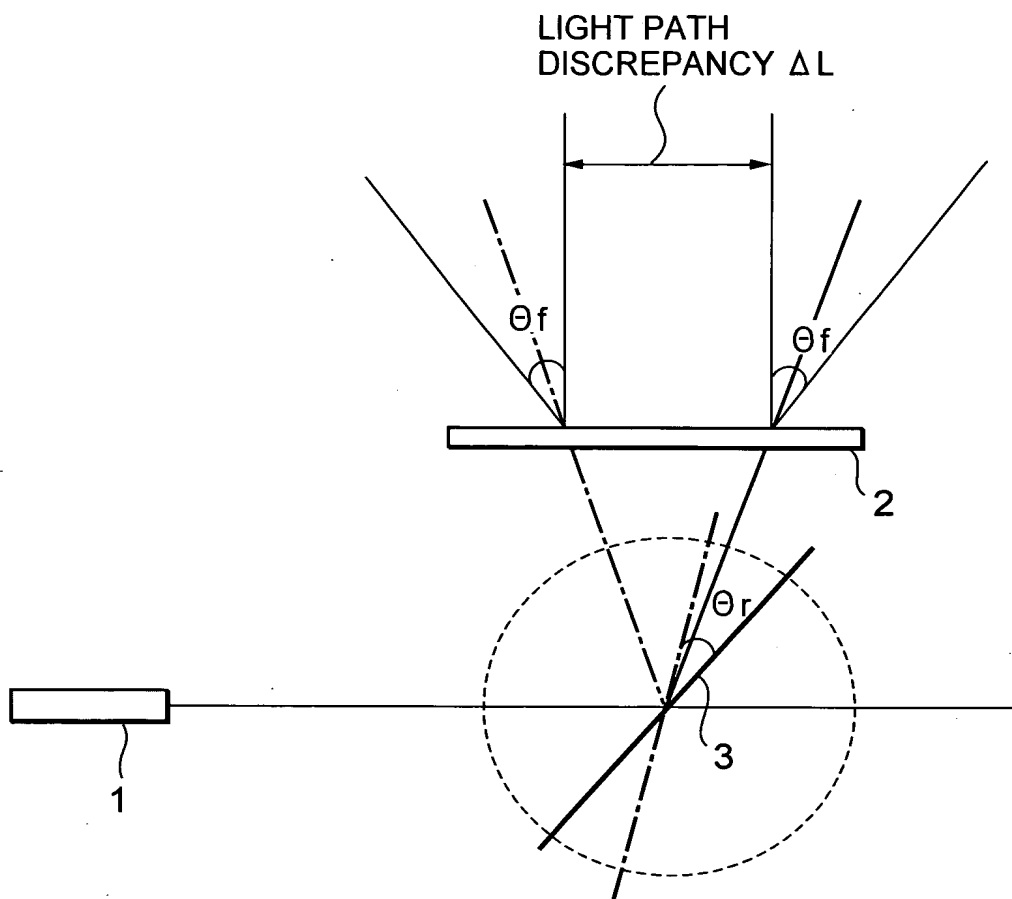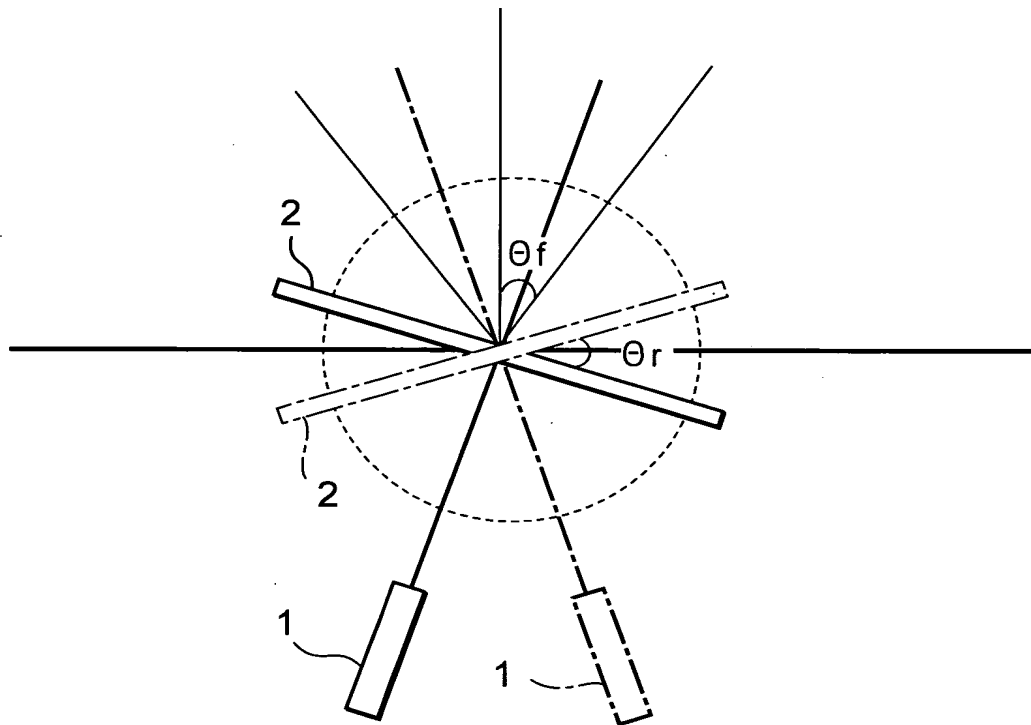# FIG. 5

LIGHT PATH
DISCREPANCY ΔL

FIG. 6

LIGHT PATH DISCREPANCY △L=0

FIG. 7

SCANNING MIRROR

LIGHT SOURCE

OBJECT

α

LENS

f

z

x

b

IMAGE SURFACE

$$z = \frac{bf\tan\alpha}{f+x\tan\alpha}$$

f : FOCUSING DISTANCE
b : BASELINE

(B)

SLIT LIGHT

SCANNING MIRROR

CYLINDRICAL LENS

LIGHT SOURCE

OBJECT

CAMERA

(A)